

What is claimed is:

1. A rapid exchange stent delivery catheter for delivering a self-expandable stent over a guide wire to a bodily lumen, the catheter comprising:

an inner tubular member having a proximal end, a distal end, a stent holding portion located adjacent the distal end of the inner member, and a guide wire lumen extending from a proximal guide wire opening disposed distal of the proximal end of the inner member to a distal guide wire opening disposed at the distal end of the inner member, wherein the proximal guide wire opening has a length;

an outer tubular member slidably disposed about the inner member, the outer member having a proximal end, a main portion, a distal end, and a guide wire opening disposed distal of the proximal end of the outer member, wherein the guide wire opening of the outer member has a length that is shorter than the length of the proximal guide wire opening of the inner member.

2. A rapid exchange stent delivery catheter as in claim 1, wherein the outer tubular member includes a guide wire access sleeve in which the guide wire opening is disposed, the guide wire access sleeve having a guide wire ramp extending into the guide wire lumen of the inner tubular member.

3. A rapid exchange stent delivery catheter as in claim 2, wherein the guide wire access sleeve has an exterior wall, and wherein the ramp extends from the exterior wall, through the guide wire opening of the outer tubular member and the proximal guide

wire opening of the inner tubular member, and into the guide wire lumen of the inner tubular member.

4. A rapid exchange stent delivery catheter as in claim 3, wherein the ramp is an integral extension of the exterior wall.

5. A rapid exchange stent delivery catheter as in claim 4, wherein the outer tubular member includes a proximal outer portion and a distal outer portion with the guide wire sleeve connected therebetween.

6. A rapid exchange stent delivery catheter as in claim 5, wherein the guide wire sleeve is a separate component from the proximal outer portion and the distal outer portion of the outer tubular member.

7. A rapid exchange catheter, comprising:
an inner tubular member having a proximal end, a distal end, and a guide wire lumen extending from a proximal guide wire opening disposed distal of the proximal end of the inner member to a distal guide wire opening disposed at the distal end of the inner member;

an outer tubular member slidably disposed about the inner member, the outer member having a proximal end, a main portion, a distal end, and a guide wire access sleeve disposed distal of the proximal end of the outer member, the guide wire access

sleeve having a guide wire opening and a guide wire ramp extending into the guide wire lumen of the inner tubular member.

8. A rapid exchange catheter as in claim 7, wherein the guide wire opening of the outer member has a length that is shorter than a length of the proximal guide wire opening of the inner member.

9. A rapid exchange catheter as in claim 8, wherein the guide wire access sleeve has an exterior wall, and wherein the ramp extends from the exterior wall, through the guide wire opening of the outer tubular member and the proximal guide wire opening of the inner tubular member, and into the guide wire lumen of the inner tubular member.

10. A rapid exchange catheter as in claim 9, wherein the ramp is an integral extension of the exterior wall.

11. A rapid exchange catheter as in claim 10, wherein the outer tubular member includes a proximal outer portion and a distal outer portion with the guide wire sleeve connected therebetween.

12. A rapid exchange catheter as in claim 11, wherein the guide wire sleeve is a separate component from the proximal outer portion and the distal outer portion of the outer tubular member.